

**Trip Report for the EPA Site Visit to the Proposed Dewey-Burdock Uranium In-Situ Recovery Site**  
**Thursday, June 11, 2015**

Shaun McGrath, the EPA Region 8 Regional Administrator, Deb Thomas, the Deputy Regional Administrator, Darcy O'Conner, Acting Assistant Regional Administrator of the Office of Partnerships and Regulatory Assistance, and Valois Shea, Underground Injection Control Program permit writer met John Mays, the Chief Operations Office, Mark Hollenbeck, the Dewey-Burdock Project Manager, and Len Aiken, Geologist for Powertech (USA) Inc. at 2:10 pm at the Powertech Office located at 310 2<sup>nd</sup> Avenue in Edgemont, South Dakota. The purpose of the trip is for Region 8 Senior staff to see the setting of the proposed ISR operation while they were in South Dakota for a midyear review of the South Dakota Department of Natural Resources and Environment environmental programs. After initial introductions, we immediately left for the Dewey-Burdock site. Shaun McGrath and Darcy O'Conner rode with John Mays and Mark Hollenbeck; Deb Thomas and Valois Shea rode with Len Aiken.

The first stop was at the County Road ## (South Dewey Road) railroad crossing in NWNE Section 15, Township 7 South, Range 1 East, near the location of the TVA pumping well for the Burdock pump test. Powertech staff explained that the TVA pumping well is screened in both the Fall River Formation and the Chilson Sandstone of the Inyan Kara group, with an open well bore across the Fuson confining unit. The 10 inch well casing forms a hydraulic connection between the two aquifers which Powertech staff believes is the main reason for the water level response in the Fall River observation well during the Powertech Burdock pump test. The surface pond, called the "Alkali Area" in the Class III permit application, is located near the TVA well. Powertech believes that this pond formed as the result of groundwater flowing to the surface through a conduit formed by a leaky historic exploration drillhole. Powertech said that Burdock Wellfield #2 will be located in this area near the road, and Burdock Wellfield #1, the first Burdock wellfield to be developed, is located further east of Wellfield #2. Because of the rain and muddy conditions we did not walk to the exact locations of these features. Powertech staff pointed out the haul road from the abandoned uranium mines as we drove by it. Powertech staff pointed out the haul road constructed for the now-abandoned uranium mines. We could not visit the abandoned uranium mines because of time constraints and road conditions.

The second stop was just south of the Town of Dewey. Powertech pointed out the locations of the Dewey Wellfields, the Powertech Dewey area pump test, the Dewey satellite processing plant, the deep injection wells and treatment and storage ponds for the deep well injectate. We stopped again at the Town of Dewey where we turned around to head back. Powertech staff pointed out the location of the Dewey Fault and explained that the TVA Dewey pump test, which was of extremely long duration because TVA was testing the logistics for dewatering an underground uranium mine in the Dewey Area, indicated that the Dewey Fault was a groundwater flow boundary rather than a groundwater flow conduit. Powertech staff pointed out some local cultural features in the Town of Dewey. Then we turned around to head back to the Powertech office in Edgemont.

On the return trip Powertech explained:

how geophysical logging was performed on exploration drillholes to identify the uranium ore body and the confining units, how the pump tests were conducted to test the confining zones and monitoring wells to be sure they were completed in the ore-bearing zone and were hydrologically connected to the injection/production wells;;

how uranium roll front ore bodies were formed from uranium in the White River Formation that was once located in this area, but eroded away over time;

the ISR process and how yellow-cake will be formed and shipped offsite; and

Powertech staff emphasized to senior staff that the delay of EPA draft permit and aquifer exemption issuance was a hardship for Powertech. Powertech staff also reminded the EPA that the SD DENR actions were on hold until the EPA and NRC permitting/licensing actions were completed.

We returned to the Powertech Edgemont office at 3:35 pm. The EPA staff left immediately for Hot Springs for a 4:00 pm meeting with Gregory Phillips of the Region 8 Tribal Assistance Program in preparation for a meeting with Oglala Sioux Tribal leadership and staff.